



FRACTALIDE

Problem / Opportunity

Try disseminating a
photo to 2 billion people
on the edge of the
internet without using



A platform and
cryptocurrency for the
unbanked billions on the
edge of the internet. We
reduce expensive large
scale data dissemination
costs to pennies without

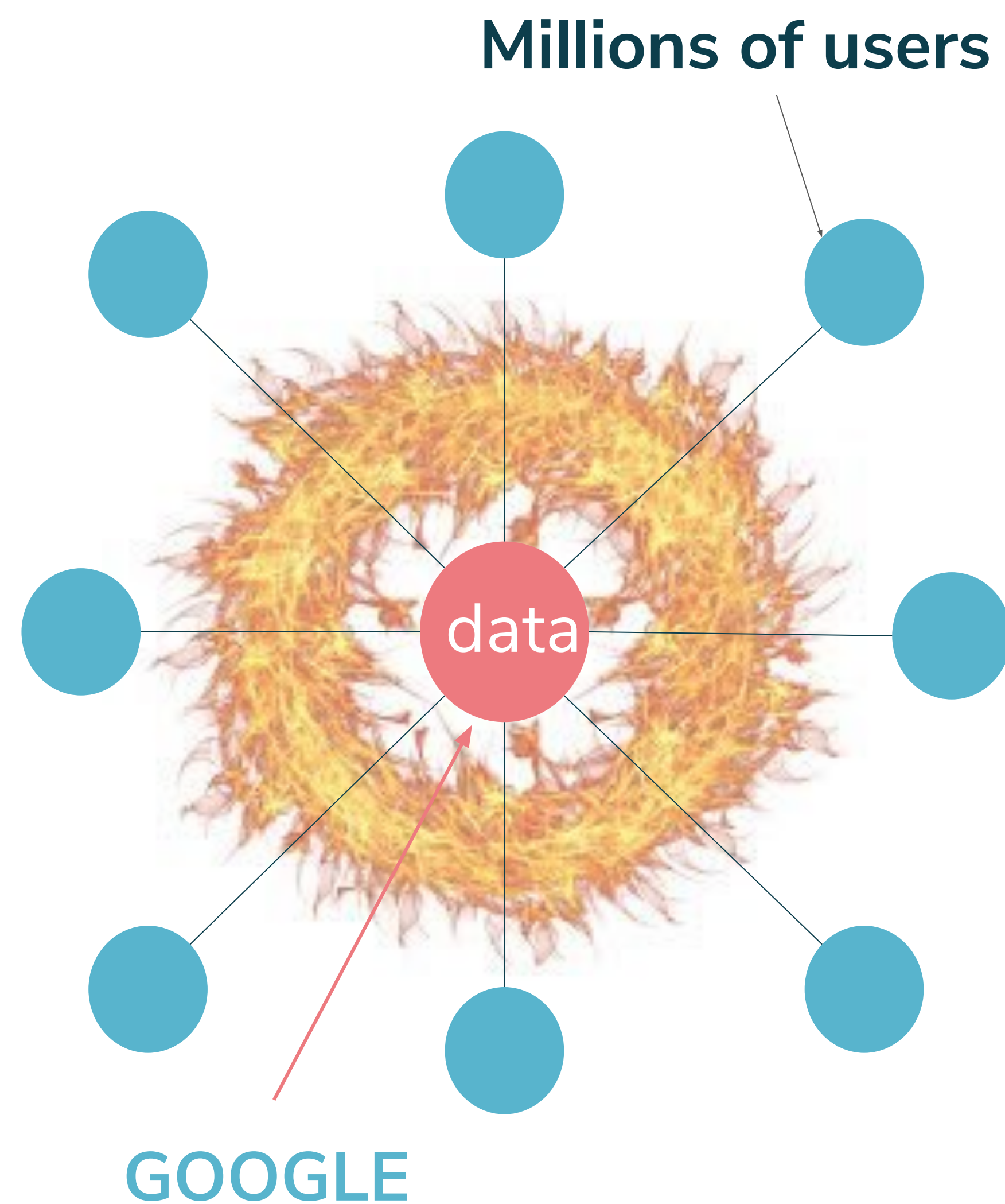


Value Proposition

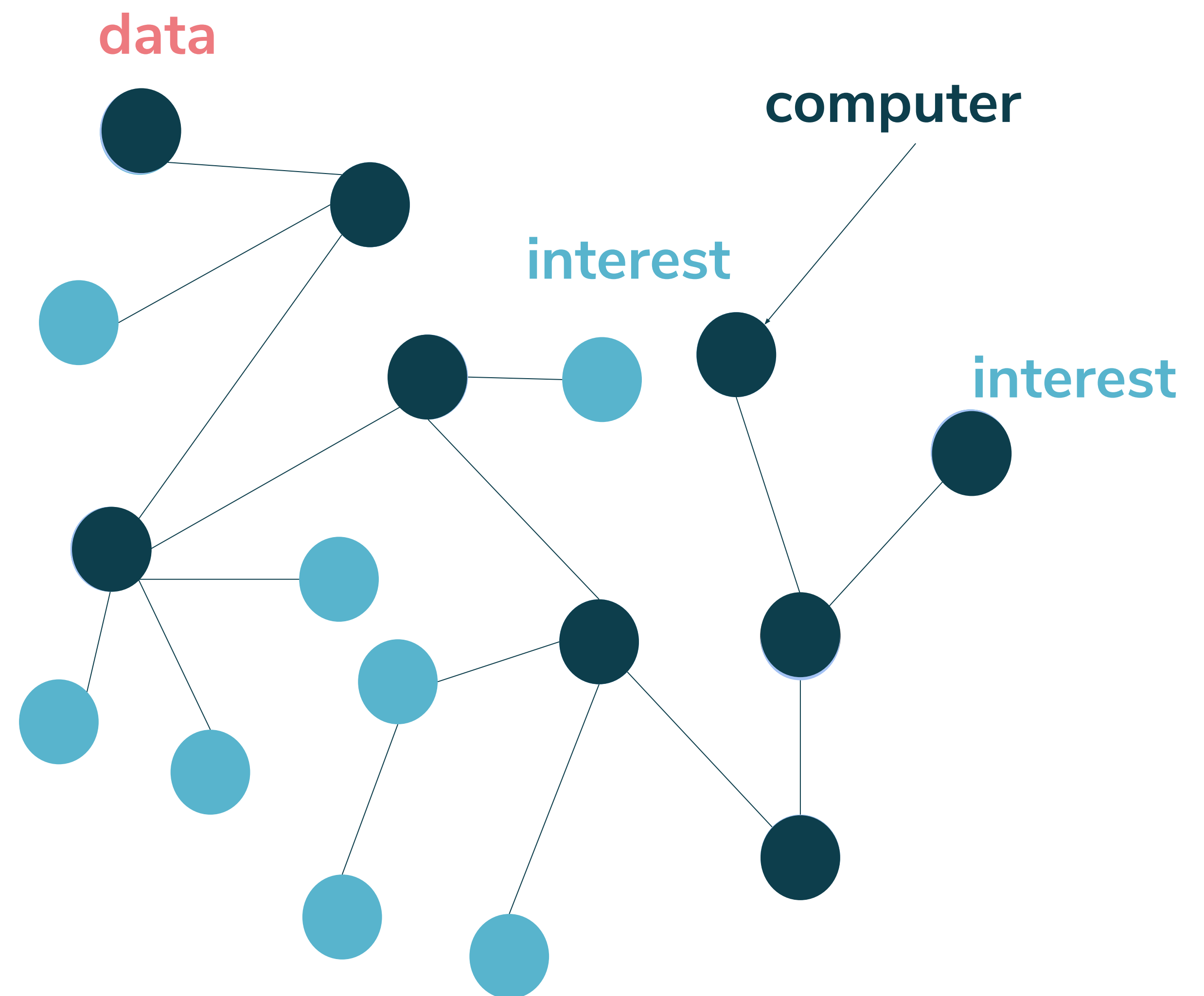
Cardano allows the unbanked to have a bank in their back pocket. So Fractalide gives people on the edge of the Internet the data dissemination capabilities of Google, Facebook and Twitter. Releasing trillions of pent up capital captured by these organisations into the market.

Underlying magic

(data should move where there is demand)

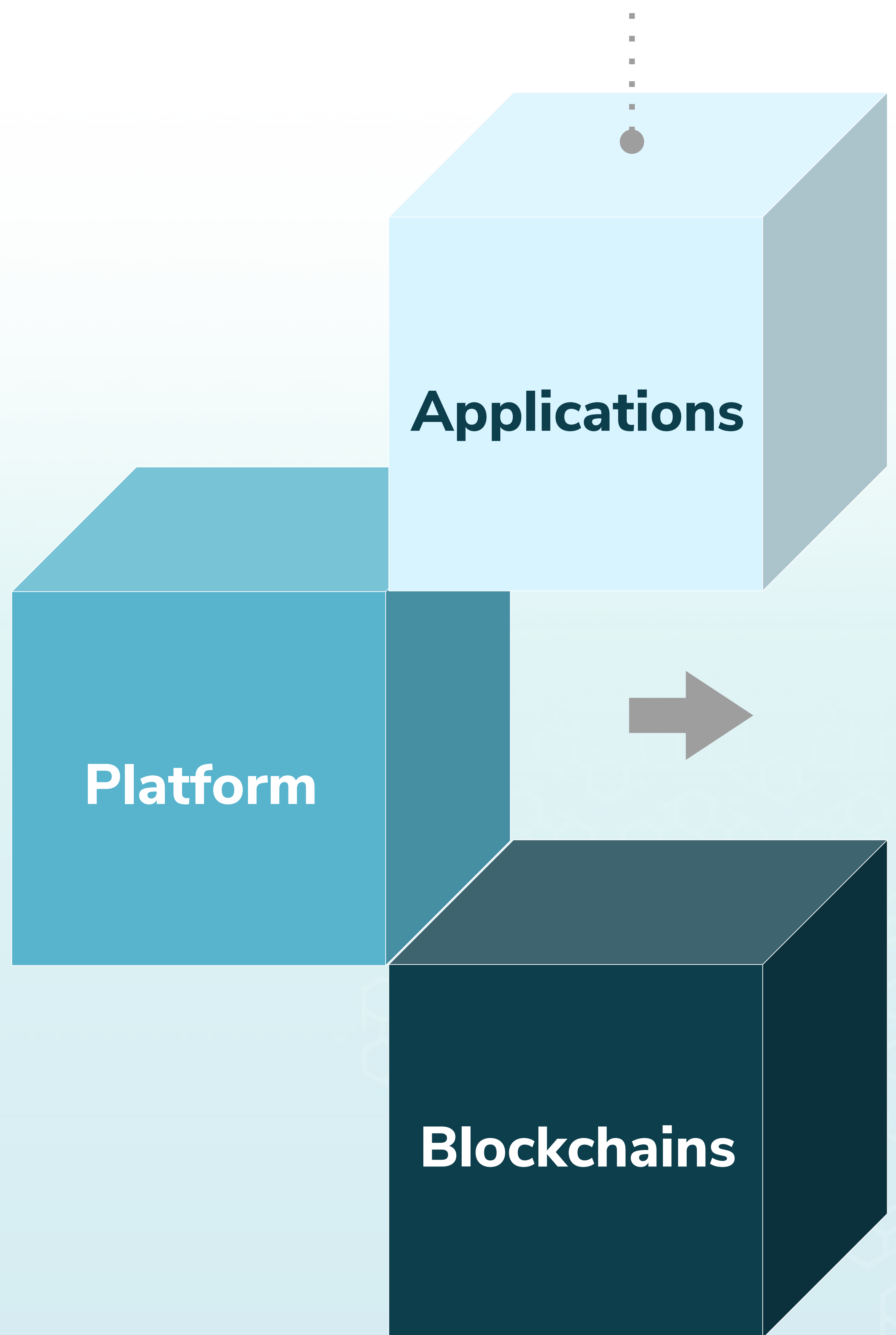


VS



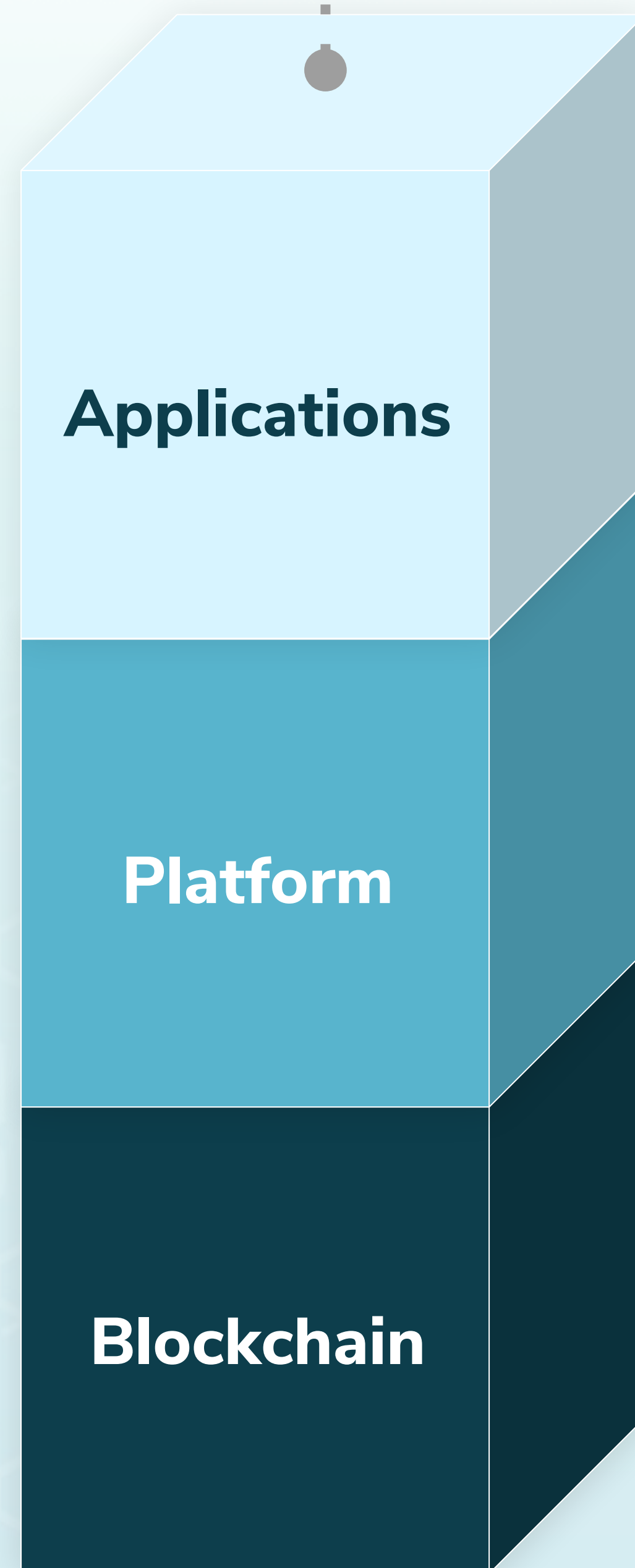
Fractalide provides one generic platform that makes it easy for apps to peer-to-peer with each other and integrate with blockchains.

Simpler for vendors to build apps and users to run apps.



Layers

Fractalide has two components:



Applications

This part consists of the browser in “run mode” that runs decentralised applications designed to interact with cryptocurrencies and/or smart contracts on the blockchain in a peer-to-peer fashion.

Platform with Tools

This part is the browser in “development mode” used to develop the decentralised applications, it also consists of the app marketplace and other support tools including networking daemon.

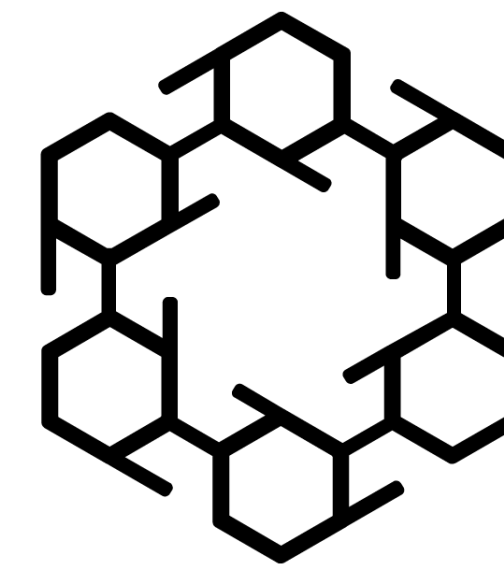
Fractalide operates above the blockchain, expands the design space and lowers the barrier to entry for non-developers, allowing the construction of applications out of reusable, reproducible, composable modules.

The Fractalide Platform: User Classes

	End Users	Domain Experts	Programmers
Usage	Execute Applications	Turn Domain Expertise into Applications	
Difficulty Level	Easy Browser	Medium Graphical Interface	Hard Rust & Racket programming languages
Advantages	Curated Platform with built-in bling	Ability to turn Domain Knowledge into Income	Ability to turn Programming Skill into Money
Entry Threshold	Need to understand <ul style="list-style-type: none">• Need to install a new platform• Basic browser operation level of knowledge	Need to understand <ul style="list-style-type: none">• Data abstraction• Data types• How to concatenate components together - like building lego	Need to understand <ul style="list-style-type: none">• Advanced programming languages like Rust and Racket• How to create truly reusable components• Understand the Nix programming language for reproducibility

Fractalide:

The Platform Component



Fractalide Application Marketplace

Programmers + Domain Experts upload and sell on the marketplace

Fractalide Integrated Development Environment

Programmers + Domain Experts use the IDE to build applications

The Fractalide Platform: Technology

	Programmers				Domain Experts	Accumulation of programming language concepts
Technology used	NixOS (optional)	Nix Expressions	Rust	Racket	Flow-based Programming	Fractalide Model
Safe			✓	✓		✓
Zero-cost abstraction			✓			✓
Reuse					✓	✓
Reproducible		✓				✓
Concurrent			✓	✓	✓	✓
Declarative Configuration Management	✓					✓
Refinement Types & Dependent Functions				✓		✓

The Fractalide Platform: Income Advantages

Programmers

- Component sales depend on how many times other people use your components in their compositions - create a very useful component you'll earn well.
- Charge for code reviews
- Charge for contract jobs to develop components or compositions
- Pay Fractalide to extend close source timeout license

Domain Experts

- Composition sales depend on how many times other people use your compositions in their compositions - create a very useful composition and you'll earn well.
- Charge for contract jobs to develop compositions
- Pay Fractalide to extend close source timeout license

End Users

- Dependent on End Users' business model
 1. Insurance application
 2. Trade Finance application
 3. Gambling application
 4. Cross border trade

The Fractalide Platform: Tech Advantages

Programmers

- Operations friendly - true write once, run anywhere - WORA
- Natural, easy to reason about flow-based concurrent execution - Dataflow
- Simple to reason about logic - component code is in one file - Miller's Law
- Organize yourself in a supply chain with strong contracts - Conway's Law
- Code Development Contract improves concurrent development - Amdahl's law
- Elevates programming to mathematics - Referential transparency
- Simple no deficiency components - *"There are two ways of constructing a software design: One way is to make it so simple that there are obviously no deficiencies, and the other way is to make it so complicated that there are no obvious deficiencies. The first method is far more difficult. It demands the same skill, devotion, insight, and even inspiration as the discovery of the simple physical laws which underlie the complex phenomena of nature."* C. A. R. Hoare
- Entirely reusable, reproducible and composable components

Domain Experts

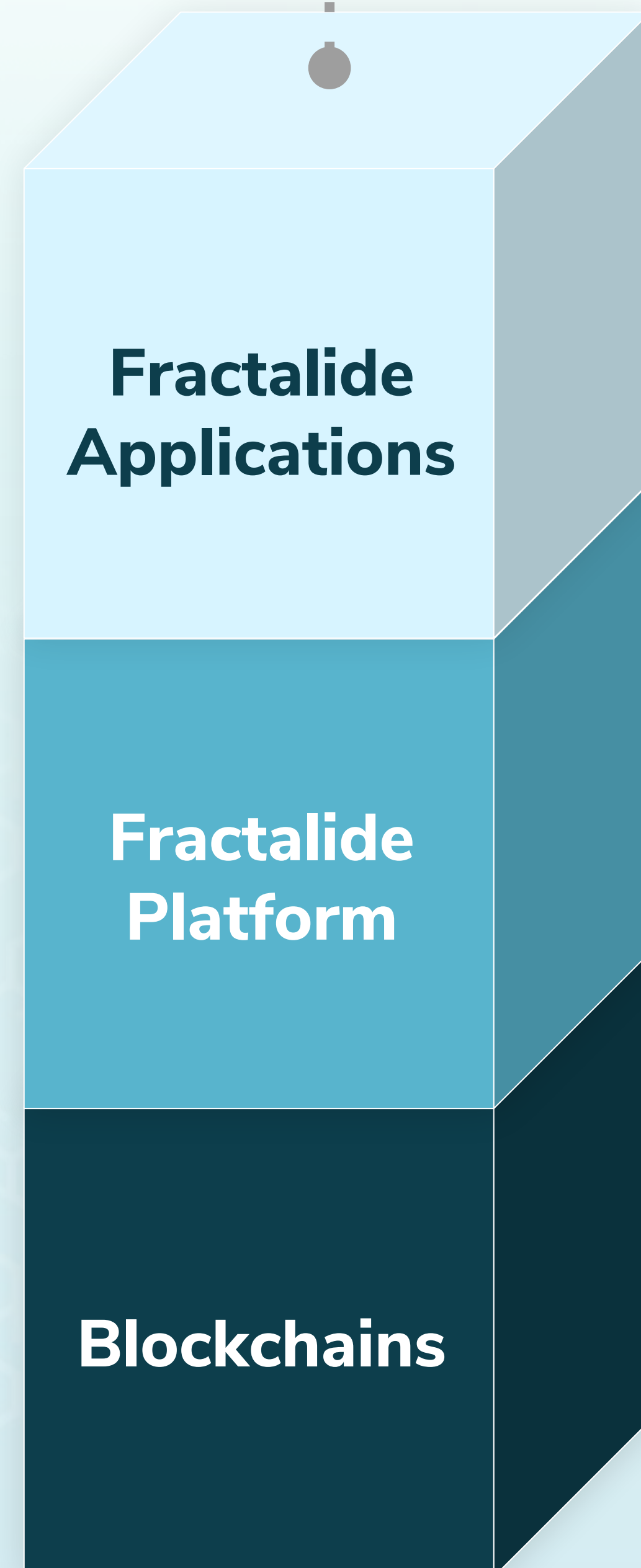
- No need to learn a complex programming language to develop applications
- Specification is the actual efficient program, no specification <-> implementation drift
- Learn tools in a toolbox by name and not how to build each tool each time
- Graphical programming environment - no code!

End Users

- Operates well on the edge of the internet
- Currency + applications for the unbanked allowing cross border trade
- Disseminate data to billions of people from your back pocket phone at negligible cost
- Easy to install and use, no DLL hell.

Fractalide:

The Applications Component



- **Apps developed and sold by programmers and domain experts**
- **End users pay for and execute apps with associated contracts**

Fractalide Execution Environment (The Browser)

- Marketplace app + contract
- Insurance app + contract
- Logistics app + contract
- Exchange app + contract
- IoT app + contract
- Warehouse Management Systems app + contract
- Trade Finance app + contract

Extension of Fractalide to the Cardano blockchain

